

REMARKS

Claims 1-3, 5-12, 15, 16, 18, 19, 21 and 23-25 are currently pending, with claims 1, 7 and 11 being in independent form. Claims 1-3, 5-7, 9, 11, 12, 15, 16, 18, 19 and 21 have been amended. Claims 1, 7 and 11 have been amended to incorporate the subject matter of claim 4. Claims 4, 13, 14, 17, 20 and 22 have been cancelled. The amendments to claims 2, 3, 5, 6, 9, 12, 15, 16, 18, 19 and 21 clarify the wording of the claims, and are cosmetic in nature. No new matter has been added. Reconsideration of the application, as amended, is respectfully requested.

The specification has been amended to reflect that this application is a U.S. National Phase PCT application.

The Examiner has failed to indicate Applicant's claim for priority or that the U.S. Patent Office has received the priority documents. A notice indicating Applicant's claim for priority and that the priority document were received is requested.

Dependent claim 22 was objected to for failing to further limit the subject matter of a previous claim. In view of the cancellation of claim 22, this objection is moot.

In the October 24, 2005 Office Action, independent claims 1, 7 and 11, and dependent claims 2-5, 8-10, 12-17, and 22-25 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,937,566 ("*Forslow*") in view of "Gateways and RFCN (Reverse Feedback Congestion Notification)," IEEE, Feb. 5, 1997 ("*Ziegler*"), while dependent claims 6 and 18-21 were rejected under 35 U.S.C §103(a) as unpatentable over *Forslow* in view of *Ziegler*, and further in view of U.S. Patent No. 6,839,339 ("*Chuah*"). For the following reasons, it is respectfully submitted that all claims of the present application are patentable over the cited references.

The claimed invention relates to a packet data transmission network system, network element and method for setting a window size in a system, such as General Packet Radio Service/Third Generation (GPRS/3G) (see pg. 1, lines 6-11 of the originally filed specification). In accordance with the claimed invention, a receiver acknowledges received data packets using acknowledgment messages which contain header data comprising a window size, wherein the number of transmitted bytes for which a sender has not received an acknowledgement from the receiver is not allowed to exceed the window size. A network element buffers data packets transmitted by the sender and examines and modifies the header data. In accordance with the

claimed invention, the network element detects transmission conditions and modifies the window size accordingly (see *Abstract*).

Forslow relates to a method and system for providing flexibility and a wide range of data services to mobile subscribers by permitting the definition and reservation of a specific quality of service for each of plural application flows activated during a data session (see col. 7, lines 37-41).

The Examiner acknowledges that *Forslow* differs from the claimed invention in that *Forslow* fails to teach a receiver that is arranged to acknowledge each received data packet by an acknowledgment message containing header data. The Examiner cites *Ziegler* in an attempt to cure this deficiency of *Forslow* (Office Action, pg. 3). However, the combination of *Forslow* and *Ziegler* fails to teach or suggest the limitation “transmission conditions comprising buffering conditions of data packets at [a] network element and radio conditions,” as recited in amended independent claims 1, 7 and 11.

Ziegler discloses a Buffer Utilization Control (BUC) algorithm that is executed in a “gateway” (see pg. 410, *Abstract*). *Ziegler* (pg. 410, *Abstract*, lines 12-13) discloses a signaling mechanism called Reverse Feedback Congestion Notification (RFCN). *Ziegler* (*Abstract*, lines 14-15) teaches that RFCN is applicable to transport protocols, such as TCP. *Ziegler* (*Abstract*, lines 15-17) teaches a receiver transmits its available buffersize to a sender in a window-field in the header of an ACK-header during window flow control. *Zeigler* (*Abstract*, lines 17-20) teaches that the BUC algorithm may update the credit value in this window field to its computed window to control the transmission rate of a data-sender. However, *Zeigler* fails to teach or suggested the invention recited in amend claims 1, 7 and 11.

Ziegler (pg. 411, 1st paragraph) teaches that the main goal of BUC is to keep the overall utilization at an output-port in a desired range, and while achieving this, provide fairness to controlled conversations. *Ziegler* (pg. 411, 1st paragraph) states the BUC algorithm computes a window depending on the state of a conversation’s queue during a well defined time interval in order to control the flow of conversations. However, *Ziegler* does not teach or suggest that transmission conditions comprising buffering conditions of data packets at said network element and radio conditions are detected, as recited in amended independent claims 1, 7 and 11.

Ziegler (pg. 411, 2nd paragraph) teaches that each conversation maintains two per-conversation-queues at two distinct output-ports at the BUC gateway. *Ziegler* (pg. 411, 2nd paragraph, lines 3-5) states, “from the viewpoint of a data-sender, one of these per-conversation-queues is the ‘forward queue’, i.e., the queue storing the packets sent by the data sender”. *Ziegler* (pg. 411, 2nd paragraph, lines 3-5) states, “the other queue storing the other per-conversation-queue is the ‘backward queue’, i.e., the queue storing the ACKs to be received by the data-sender”. *Ziegler* (pg. 411, 2nd paragraph, lines 7-9) states, “the RFCN algorithm requires that each forward queue have access to the data structures of its corresponding backward queue and vice versa”. *Ziegler* (pg. 411, 2nd paragraph, lines 9-13; Fig. 1) teaches that if used in combination with RFCN, the BUC algorithm calculates the window at the forward queue and sets the header field of the ACKs at the corresponding backward queue. There is nothing in the foregoing sections of *Zeigler* to teach or suggest anything associated with radio conditions, or otherwise.

In accordance with the claimed invention, buffering conditions of data packets at the network element and radio conditions can be detected and the window size can be modified accordingly. In radio communications, the conditions of ongoing communications change depending on the condition of the weather, multipath propagation, and changing network conditions, such as handovers between cells. In wireline communications, however, such changes do not occur. In other words, the difference between the invention recited in amended independent claims 1, 7 and 11 and the system achieved by the combination of *Forslow* and *Ziegler* resides in the element performing the buffering and window modification. In particular, for example, the BUC gateway disclosed in *Zeigler* is unable to detect radio conditions, and a person having the ordinary level of skill in the art would not be motivated to provide the *Zeigler* BUC gateway with such a capability because wireline communication changes due to radio conditions do not occur in such a system. Consequently, *Zeigler* fails to teach the limitation “transmission conditions comprising buffering conditions of data packets at said network element and radio conditions,” as recited in amended independent claims 1, 7 and 11. In view of the foregoing, reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a) are in order, and a notice to that effect is requested.

Moreover, *Forslow* has nothing to do with Applicant’s claimed window flow control, and fails to even teach or suggest the claimed “buffering conditions of data packets at [a] network

element and radio conditions” recited in amended independent claims 1, 7 and 11. Therefore, absent an impermissible hindsight analysis based on Applicant’s present disclosure, a person skilled in the art would not seek to modify *Forslow* based on the teachings of *Zeigler* in order to achieve improved flow control. *Forslow* (col. 7, lines 45-46; Fig. 4) teaches a dynamic quality of service routine (block 100) in which a packet session is established for each mobile host. *Forslow* (col. 7, lines 47-52) states, “during [the] established packet session, plural application flows/packet streams are communicated between an external network entity like the fixed terminal 18 shown in FIG. 1 or an Internet service provider (ISP) shown in FIG. 2, and the mobile host such as the mobile host 12 shown in FIGS. 1 and 2 (block 102)”. *Forslow* (col. 7, lines 52-55) states, “a quality of service (QoS) is reserved ... for each application flow during the established packet session.” *Forslow* (col. 7, lines 52-55) further states, “packets corresponding to each application flow are delivered between the external network entity and the mobile host in accordance with the reserved corresponding quality of service (block 106)”. Thus, *Forslow* discloses a way for an established packet session to serve as a bearer for plural serial application sessions without requiring reestablishment and reconfiguration of the mobile host. *Forslow* has nothing to do with Applicant’s claimed window flow control. Therefore, the combination of *Forslow* and *Zeigler* is improper, and withdrawal of the rejections under 35 U.S.C. §103 are in order for at least this additional reason.

The Examiner cites *Chuah* based on the failure of the system achieved by the combination of *Forslow* and *Ziegler* to include an “SGSN header performs header compression”. *Chuah* relates to UMTS (Universal Mobile Telecommunications System) core network supporting a compression framework that provides for header compression of General Packet Radio Service Tunneling Protocol (GTP)-Encapsulated Packets (see Abstract). In particular, *Chuah* (Abstract) teaches that a GTP/UDP(User Datagram Protocol)/IP(Internet Protocol) header is compressed. However, *Chuah* fails to teach or suggest the limitation “transmission conditions comprising buffering conditions of data packets at said network element and radio conditions,” as recited in amended independent claims 1, 7 and 11. Thus, the combination of *Forslow*, *Ziegler* and/or *Chuah* fails to render independent claims 1, 7 and 11 obvious and unpatentable and thus, reconsideration and withdrawal of all the rejections under 35 U.S.C. §103(a) are in order, and a notice to that effect is requested.

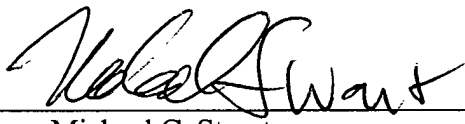
In view of the patentability of independent claims 1, 7 and 11, for the reasons set forth above, dependent claims 2-3, 5, 6, 8-10, 12, 15, 16, 18, 19, 21 and 23-25 are all patentable over the prior art.

Based on the foregoing amendments and remarks, this application is in condition for allowance. Early passage of this case to issue is respectfully requested.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By 
Michael C. Stuart
Reg. No. 35,698
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770

Dated: February 24, 2006